Results of Testing

Chemical Name	CAS No.	Study Code/Type	Protocol/Guideline	Species	Exposure	Dose/Concentration	No. per Group	Results	Reference
Commercial Hexane	Not available	HEADME Pharmacokinetic assay	40 CFR 795.232 (modified)	rats	dermal, 6 hours	1.1, 11 mg/cm^3	6/sex	.The test material was metabolized and excreted within 168 hours of exposure. Exhaled breath and urine were the primary routes of excretion.	57 FR 45056; 9/30/92, Docket OPPTS-44591
Commercial Hexane	Not available	HEADME Pharmacokinetic assay	40 CFR 795.232 (modified)	rats	inhalation, 6 hr/d, 8 days (900 ppm); 6 hr (9000 ppm)	900, 9000 ppm	5/sex (9000 ppm); 6/sex (900 ppm)	The test material was metabolized and excreted within 168 hours of exposure. Exhaled breath and urine were the primary routes of excretion.	57 FR 45056; 9/30/92, Docket OPPTS-44591
Commercial Hexane	Not available	HECTOXCARC Oncogenicity	40 CFR 798.3300 (modified)	mice	whole-body inhalation, 6 hr/d, 5d/wk, 2 years	900, 3000, 9018 ppm	50/sex	There was no significant difference in survival among any of the control or exposure groups. Hematological and ophthalmoscopic examinations found no signs of any test-related effects. Food consumption in the 9018 ppm group was lower than the controls. Body weight gain and mean body weight were reduced in the 9018 ppm female group. Microscopic examination found an increase in hepatocellular neoplasms (adenoma and carcinoma) and decrease in the severity and a slight decrease in the incidence of cystic endometrial hyperplasia of the uterus among females in the 9018 ppm group. Under the exposure conditions of this study, the test substance was an oncogen in female mice.	58 FR 40427; 7/28/93, Docket OPPTS-44600
Commercial Hexane	Not available	HECTOXCARC Oncogenicity	40 CFR 798.3300 (modified)	rats	whole-body inhalation, 6 hr/d, 5 d/wk, 2 years	900, 3000, 9000 ppm	50/sex/group	Under the exposure conditions of this study, commercial hexane was not an oncogen in the rat. Squamous/squamoid metaplasia.hyperplasia of the pseudostratified columnar epithelium was seen in a small number of animals and considered to be a localized response indicative of irritation.	58 FR 32122; 6/8/93, Docket OPPTS-44598
Commercial Hexane	Not available	HEGTOXCHRM Mammalian cytogenetic assay	40 CFR 798.5375 (modified)	hamster	*in vitro*	0.0, 0.015, 0.034, 0.074, 0.123, 0.416 l/ml without metabolic activation; 0.0, 0.014, 0.022, 0.056, 0.118, 0.251 ul/ml with metabolic activation Not specified	Not applicable	The two highest exposure levels resulted in high mortality, both with and without metabolic activation. At the other exposure levels, either with or without metabolic activation did not increased the frequency of chromosomal aberrations.	55 FR 9504; 3/14/90 OTS0524324
Commercial Hexane	Not available	HEGTOXCHRM Mammalian chromosomal aberration	40 CFR 798.5385 (modified)	rats	inhalation (nose only), 6 hr/d; 5 days	0, 876, 3249, 8715 ppm	5/sex	Treatment did not induce chromosomal aberrations in bone marrow cells.	55 FR 27303; 7/02/90 OTS0532896
Commercial Hexane	Not available	HEGTOXMUTA Reverse mutation assay	40 CFR 798.5265) (modified)	*Salmonella typhimurium*	*in vitro*	0, 600, 1000, 3000, 6000, 9000 ppm	Not applicable	No cytotoxicity resulted at any exposure level evaluated with TA98, TA100, TA1535, TA1537, and TA1538. The test substance did not increase the frequency of histidine revertants, either with or without metabolic activation.	54 FR 21117; 8/04/89 OTS0524322

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Commercial Hexane	Not available	HENEUR Schedule-controlled operant behavior	40 CFR 798.6500 (modified)	rats	inhalation (nose only), 6 hr	0, 900, 3000, 9000 ppm	6/sex	Results indicate no significant differences in the rate of responding between control and treated groups.	55 FR 9504; 3/14/90 OTS524324
Commercial Hexane	Not available	HENEUR Neuropathology	40 CFR 798.6400 (modified)	rats	inhalation (whole body), 6 hr/d; 5 d/wk; 13 weeks	0, 900, 3000, 9000 ppm	12/sex	Results indicate that neuropathological studies at all levels of the neuroaxis proved negative.	55 FR 9504; 3/14/90 OTS524324
Commercial Hexane	Not available	HENEUR Motor activity	40 CFR 798.6200 (modified)	rats	inhalation (whole body), 6 h/d; 5 d/wk; 13 weeks	0, 900, 3000, 9000 ppm	12/sex	Results indicated no difference in the motor activity tests among treated and control rats. No abnormal neurpathological changes were observed.	55 FR 9504; 3/14/90 OTS524324
Commercial Hexane	Not available	HENEUR Functional observational battery	40 CFR 798.6050 (modified)	rats	inhalation (whole body), 6 hr/d; 5 d/wk; 13 weeks	0, 900, 3000, 9000 ppm	12/sex	Results indicated no difference in the functional observational battery assessment between treated and control rats. No abnormal neurpathological changes were observed.	55 FR 9504; 3/14/90 OTS524324
Commercial Hexane	Not available	HERTOXTERA Inhalation developmental toxicity	40 CFR 798.4350 (modified)	rats	inhalation, 6 hr/d, gestation days 6-15	0, 900, 3000, 9000 ppm (target)	25 timed-pregnant females	Maternal toxicity was noted at 3000 ppm and higher (decreased body weight gain and food consumption, treatment-related color changes in lungs at high-dose). No apparent developmental toxicity was noted at any level. The NOEL for maternal toxicity was 900 ppm, and for developmental toxicity, 9000 ppm.	54 FR 52449; 12/21/89 OTS0524323
Commercial Hexane	Not available	HERTOXTERA Inhalation developmental toxicity	40 CFR 798.4350 (modified)	mouse	inhalation, 6 hr/d, gestation days 6-15	0, 900, 3000, 9000 ppm	30 timed-pregnant females	Maternal toxicity was noted at 3000 ppm and higher (treatment-related color changes in the lungs). Developmental toxicity (treatment-related increased incidence of 2 skeletal variations - bilateral bone islands at the 1st lumbar arch and all intermediate phalanges unossified) was noted at 9000 ppm. The NOEL for maternal toxicity was 900 ppm and for developmental toxicity, 3000 ppm.	54 FR 52449; 12/21/89 OTS0524323
Commercial Hexane	Not available	HERTOXTERE Reproductive/fertility effects	40 CFR 798.4700 (modified)	rat	inhalation, from 10 weeks pre-mating through 2 generations	0, 900, 3000, 9000 ppm	24/sex	Parental toxicity was noted at 9000 ppm (reduced body weight gain; hyaline droplet nephropathy and tubular basophilia in F0 males); perinatal toxicity at 9000 ppm (decreased weight gain; decreased body weights/litter). The NOEL was 3000 ppm for parents and offspring.	56 FR 22715; 5/16/91 OTS0532897

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Commercial Hexane	Not available	HESTOX Subchronic inhalation toxicity	40 CFR 798.2450 (modified)	rats	inhalation, 13 weeks	0, 900, 3000, 9000 ppm	10/sex	No treatment-related mortality, body weight change or alteration in food consumption were seen. Commercial hexane produced a transient, but dose-related increase in lacrimation in female rats. The absolute and relative liver weights in all animals were significantly increased at the highest exposure level, except for the female rat, which did show an upward trend, although not significant. Three out of ten highest-dose male rats were found to have hemorrhage present in the liver,; the severity of these lesions were graded slight. Inflammation was also present in tow out of ten male rat livers in this group, one of which also exhibited hemorrhage. Kidney findings were confined to the male rat where the highest exposure groups showed a statistically y significant increase in organ\body weight and organ\brain weight ratios and renal inflammation was evident in nine of ten animals. In a separate study, these kidney tissues were stained with Mallory's Heidenhain stain and scored for the presence of hydrocarbon nephropathy. Nephrotoxicity scores revealed a grade changed from control to mid dose (27-34) with a sharp increase at the high dose level (82) in male kidneys only.	55 FR 9504; 3/14/90 OTS524324
Commercial Hexane	Not available	HESTOX Subchronic inhalation toxicity	40 CFR 798.2450 (modified)	mice	inhalation, 13 weeks	0, 900, 3000, 9000 ppm	10/sex	No treatment-related mortality, body weight change or alteration in food consumption were seen. Commercial hexane produced a transient, but dose-related increase in lacrimation in both sexes. The absolute and relative liver weights in both sexes were significantly increased at the highest exposure level.	55 FR 9504; 3/14/90 OTS524324